

August 30, 2004

US EPA RECORDS CENTER REGION 5



VIA FACSIMILE & UPS

Ms. Karen L. Nesbit
Ohio Environmental Protection Agency
Div. of Hazardous Waste Management
Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087

RÜTGERS Organics Corporation

**RE: RESPONSE TO SPILL INCIDENT NOV DATED JULY 27, 2004 –
NEASE SITE, SALEM, OHIO**

Dear Ms. Nesbit:

This letter responds to the Ohio Environmental Protection Agency's ("OEPA") July 27, 2004 correspondence regarding the above-referenced facility (the "Site"). This letter is intended to address OEPA's comments and provide various clarifications to information RÜTGERS Organics Corporation ("ROC") previously provided to OEPA.

It is important to recognize at the outset that the Site currently is listed on the National Priorities List pursuant to CERCLA. ROC, pursuant to an Administrative Order by Consent (AOC), voluntarily has performed the Remedial Investigation (RI) at the Site and is in the process of completing the Feasibility Study (FS) that will be submitted to the United States Environmental Protection Agency (USEPA) and OEPA this week. ROC also has implemented various response actions to address current Site contamination, including the design, construction and operation of the treatment system that is the focus of the spill addressed in OEPA's June 27, 2004 letter. ROC has cooperated fully with OEPA and U.S. EPA to date, and is working closely with both agencies to determine the best remedy to address the known, preexisting Site contamination. There are no ongoing manufacturing activities at the Site, and in fact, the facility has been shut down since the mid 1970s. ROC believes that the preexisting condition of the Site and ongoing CERCLA remediation process greatly impacts the response necessary to address the minor spill that ROC conservatively reported to OEPA.

**A. Responses to OEPA comments and concerns with the
information provided by ROC**

Comment #1:

A representative of Howells and Baird, Inc, who manages and operates the treatment system at the Site (Site Operator), previously had

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determined that the maximum volume of the spill was approximately 20,000 gallons. ROC has subsequently discovered new information and developed a revised estimate pursuant to OEPA's request.

As previously reported, the spill was caused by the high level switch in the pre-equalization tank (PET) failing to shut off the feed pump from leachate collection sump 1 (LCS-1). The water continued to fill the PET until it reached an overflow pipe, which drained by gravity directly into the Surge Tank (T-1), the next component of the treatment system. The Surge Tank filled until it reached an overflow pipe, which then spilled onto the floor of the treatment plant. The Site Operator estimated that, based on normal operating conditions, prior to the spill event, the PET (with a total capacity of 4,000 gallons) was about half full, meaning there was about 2,000 gallons of capacity in the PET. Likewise, the Surge Tank (with a total capacity of 500 gallons) was estimated to be nearly empty, meaning there was about 500 gallons of capacity in the Surge Tank. Therefore, a total of only 2,500 gallons of capacity was available in the PET and Surge Tank prior to the spill.

LCS-1 includes a flow totalizer which records the volume pumped from the collection system to the PET. The difference in the readings of the LCS-1 flow totalizer taken prior to and after the spill occurred was approximately 21,500 gallons. ROC initially used this amount to estimate the previously reported spill volume. ROC subsequently has determined that the LCS-1 flow totalizer had been providing erroneously high readings for some time, including when the spill occurred. This determination was made from the following observations:

1. The Site Operator checked the accuracy of the LCS-1 flow meter on two separate days (August 10 and 11, 2004) by pumping water from LCS-1, through the flow meter, and into the PET. The volume added to the tank was calculated from the change in the tank level and tank dimensions. This volume was compared to the difference in the LCS-1 flow totalizer readings before and after the pumping cycle. For both tests, the volume of water collected in the tank was about 77% less than the volume indicated by the LCS-1 flow totalizer. For example, on August 11th, it was calculated that 1,096 gallons was added to the PET, but the totalizer indicated 4,752 gallons, which is impossible given that the tank capacity is only 4,000 gallons.
2. The Site Operator also retrieved and reviewed historical plant data, including monthly flow totals for the LCS-1, Pond 1, and treatment system flow totalizers as far back as 2001. The flow recorded by the treatment system totalizer should be nearly equal to the total flow from the sources to the treatment system; i.e. the sum of flow from LCS-1 totalizer and the Pond-1 flow totalizer. This is the case for the early data, however, reviewing the more recent data and taking into account the Pond-1 flow, the volume of water recorded by the treatment system flow meter attributed to

LCS-1 is, on average, 68% less than the volume indicated by the LCS-1 flow totalizer.

- 3 On August 13, 2004, the Site Operator inspected the LCS-1 flow totalizer and discovered that the internal measuring unit was faulty, and replaced it immediately. Since the measuring unit was replaced, the Site Operator reported that the LCS-1 flow meter readings appear much more accurate. Using the same testing method indicated in item 1 (comparing the calculated volume of water collected in the tank and the volume indicated by the LCS-1 flow totalizer) close agreement was obtained for three separate tests conducted on August 15 and 16, 2004. Therefore, it is believed that the faulty internal measuring unit was the cause of the erroneously high flow readings from LCS-1 flow totalizer.

It can be concluded from items 1 and 2 above, that the actual influent flow to the PET around the time of the spill was about 70% lower than the LCS-1 flow totalizer recorded. Taking into account all of the information presented in this section, the revised spill estimate is as follows:

A. Flow indicated by LCS-1 totalizer	21,500 gal
B. Actual Flow to PET and Surge Tank (A x 0.3)	6,500 gal
C. Spare capacity in PET and Surge Tank	2,500 gal
D. Estimated spill volume (B – C)	4,000 gal

This means that although the difference in the LCS-1 flow totalizer readings before and after the spill event previously was indicated to be 21,500 gallons, only about 6,500 gallons is estimated to actually have passed through the totalizer and onward to the PET and Surge Tank due to the meter error. Because there was approximately 2,500 gallons of capacity in these tanks, it is now estimated that only 4,000 gallons of influent was actually spilled from the Surge Tank. Thus, ROC certainly took a highly conservative approach by reporting the minor spill to OEPA. ROC is also inspecting the totalizer on a quarterly basis so that any future malfunction can be promptly rectified.

In response to the spill, the Site Operator vacuumed up as much water as possible from the treatment plant floor, and temporarily stored the water in a single 55-gallon drum. As a conservative procedure, the vacuumed water was sent off-Site for disposal with the LCS-2 waste collected in the exterior storage tank (EST). A sample of the treatment plant influent also was collected and sent for analysis on June 16, 2004.

Comment #2:

As stated in the response to Comment #1, the water vacuumed from the treatment plant floor was placed in a 55-gallon drum and sent off-Site for disposal with the LCS-2 waste stream collected in the EST.

The "unnecessary" material OEPA referred to in its June 28, 2004 letter is clean carbon stored in drums in a different area of the building from where the spill occurred. The carbon and other materials stored in drums or on pallets did not come in contact the spilled influent.

Comment #3:

As mentioned previously, the discharge occurred from the Surge Tank, which is within the treatment plant enclosure inside the building. The Surge Tank is located closest to the southeast wall of the building. It is believed that the spill flowed from the treatment plant skid towards the carbon tanks, which are located near the southern corner of the building, and covered an area from just past the door on the southwestern side the building to just past the inlet piping manifold on the southeastern side of the building, including an adjacent door. This conclusion was made by the Site Operator by observing which areas of the floor inside the building were wet after the spill had been discovered. Although no one was present to observe the direction the spill exited the building, it is reasonable to conclude that some portion of the spill left the building under the doors on the southwestern and southeastern sides of the building.

Regardless of whether the spill exited from the southwest or southeast side, the topography in those areas is generally level near the building. Both the Site Operator and OEPA separately concluded that the spill appeared to have been absorbed into the soil in the immediate area of the building and did not reach a drainage ditch or open waterway. Figures showing surface contours have been provided to the OEPA in previous submittals, such as the Emergency Response Contingency Plan (Golder Associates, July 2001), and a further copy is provided in Attachment 1. The figure also shows the approximate locations of the doors from the building, as indicated by the evacuation route.

As has been previously been reported, the location of the treatment plant building is upgradient of the groundwater extraction system. Referring to the groundwater potentiometric contour map presented in Figure 2 of the Eastern Plume / DNAPL Investigation Report (see Attachment 2), the treatment plant is located on a groundwater divide, and the shallow groundwater flow in the area of the treatment plant building could flow in two different directions. As described in the Investigation Report text, the primary flow regime is toward the east/northeast where the collection system is located, and a second, less significant, regime is towards the south/southeast. The transition between the two flow directions is near the treatment plant building.

The Eastern Plume / DNAPL Investigation Report also identified existing VOC and SVOC impacts to shallow groundwater to the south and southeast of the treatment plant building, as showing in Figure 11 (see Attachment 3). The contaminants identified in the groundwater to east/northeast and south/southeast of the treatment plant are chlorinated

organics nearly identical to those detected in the analysis of spilled influent. Remediation of both areas of the groundwater is already being addressed as part of the on-going Feasibility Study (FS) for the Site.

Comment #4:

Soil sampling data showing the extent of soil contamination at the Site has previously been provided to OEPA in the Remedial Investigation (RI) Report (November 1993). In particular, the test pit sample TP1 located closest to the spill area shows that the soil already was contaminated by chlorinated organics and mirex, including organics detected in the analysis of the spilled water.

Attachment 4 provides a map showing the soil boring locations and a summary table of detections found at the locations closest to the treatment plant building, including TP1, TP2, and TP18.

Remediation of the on-Site soils, including the area around the treatment plant building, already is being addressed as part of the ongoing FS for the Site.

Comment #5:

ROC would like to reiterate the classification it uses for various waste streams at the Site. The following waste codes are used for off-Site disposal:

- Waste water from leachate collection system #2 (LCS-2) downgradient of the former treatment ponds: F039;
- Spent liquid-phase carbon: D021, D027, F005;
- Spent vapor-phase carbon: F005; and,
- Spent bag filters: F039.

As stated in previous letters, because knowledge of previous operations at the Site is limited, ROC's policy has been to apply waste codes that are consistent with the characterization, and also ensure that the waste materials are thoroughly and adequately treated. The spilled influent for the treatment plant is from LCS-1 and is not a listed waste. For off-Site treatment purposes, water from LCS-2 and spent filter bags from the treatment plant are classified by ROC as F039 as a conservative risk management measure to ensure stringent treatment; however these classifications do not render the treatment plant influent to be F039.

As shown with the data provided in ROC's July 14, 2004 letter, the total VOCs plus SVOCs in the influent sample was approximately 14.6 parts per million (ppm). Overall, 14.6 ppm of VOCs and SVOCs in 4,000 gallons of water indicates that approximately 0.5 lbs of VOCs and SVOCs would have been spilled. Calculating the mass of each constituent spilled, it is evident that no reportable quantities (RQs) of any individual VOC or SVOC were exceeded (See Attachment 5). For example, the analysis indicates that cis-1,2 dichloroethylene represents approximately three quarters of the total

VOCs/SVOCs, which amounts to about 0.35 lbs. However, this is much lower than the reportable quantity for cis-1,2 dichloroethylene of 1,000 lbs. And, although vinyl chloride has a low reporting limit (1 lb), the amount spilled was no more than 0.02 lbs.

Furthermore, because the spilled influent is not an F039 waste, the 1 pound (lb) reportable quantity is not even applicable. Although the spilled material was characteristically hazardous for two VOC compounds, none of the parameters exceed their respective CERCLA reportable quantities (RQs). Technically, because no hazardous substances were released in quantities greater than or equal to their RQ, this spill was not subject to reporting. However, under the circumstances, ROC believes it acted appropriately and honestly in reporting the spill.

B. Responses to OEPA comments regarding compliance with state hazardous waste rules

Comment #1:

As you are aware, ROC has been working closely with OEPA and USEPA for more than ten years to develop a rigorous plan for addressing contamination throughout the Site. Currently, the FS is being performed (and will be submitted to USEPA and OEPA this week) to determine the best methods for remediation of contaminated media at the Site. This includes soil and groundwater remediation at the location where the spill occurred. Given the prior investigation and known contamination, it would be impossible to distinguish contamination caused by the spill event from other known contamination, and to do such an investigation would not provide the information sought by OEPA. Furthermore, the cleanup of the area under CERCLA will fully address any incremental contamination (to the extent any even exists) as a result of the spill.

ROC, therefore, does not consider initiation of a separate investigation to be appropriate at this time.

Comment #2:

Taking a conservative and responsible approach, ROC immediately notified OEPA of the spill and has provided the information that would be required by the regulations if the spill was required to be reported. ROC verbally notified Mr. Joseph Trocchio of the Division of Emergency and Remedial Response at the Northeast District Office of OEPA the day of the spill (June 14, 2004). The spill also was reported to the OEPA Emergency Response Unit Spill Hotline on June 14, 2004. A written summary regarding the spill was forwarded to Mr. Trocchio on June 15, 2004, the same day he investigated the spill at the Site. Additionally, corrective measures in response to the spill were proposed in a July 14, 2004 letter to Mr. Trocchio.

ROC has forwarded copies of the prior notifications to the Director's office under cover of a letter dated August 9, 2004.

We trust that this information satisfactorily responds to the comments contained in OEPA's July 27, 2004 letter. If we can provide any additional information, do not hesitate to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Rainer Domalski". The signature is fluid and cursive, with a small mark at the end.

Dr. Rainer F. Domalski
Project Coordinator

cc: Joseph E. Trochio, OEPA, DERR
Mary Logan, USEPA
P. Stephen Finn, Golder Associates

ATTACHMENT 1

ATTACHMENT 2



LEGEND

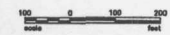
- PROPERTY LINE
- 310 MOUNTAIN HILL LOCATION
- (1132.2) GROUNDWATER ELEVATION
- (100) GROUNDWATER CONTOUR (DASHED WHERE SPOOLED)
- POND 2 PLANE GROUNDWATER FLOW DIRECTION
- "GROUND PLANE" GROUNDWATER FLOW DIRECTION

NOTES

- 1) GROUNDWATER MEASUREMENTS OBTAINED BY HENKELS AND BAKER, INC. DURING 05 APRIL 2004.

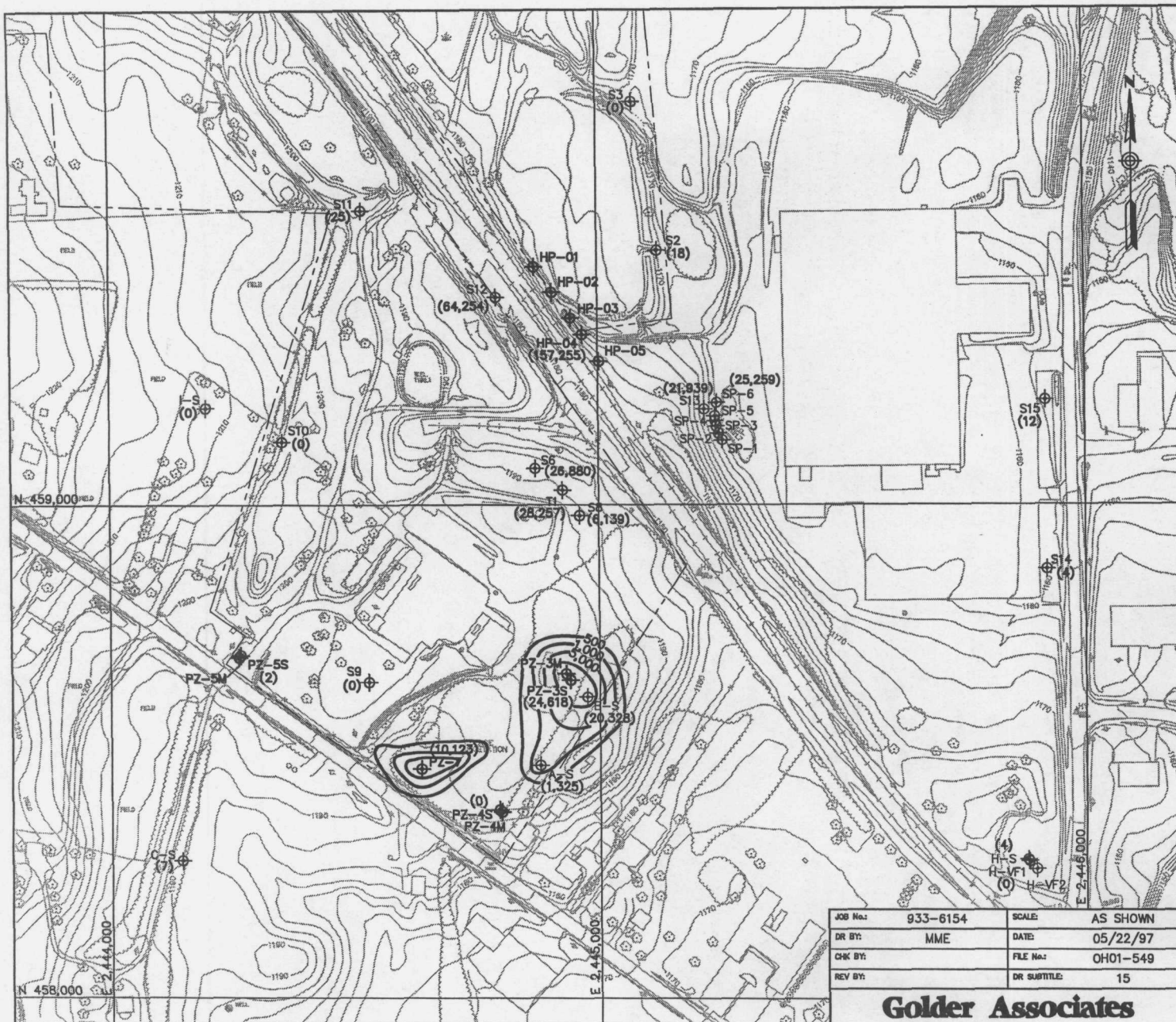
REFERENCE

- 1) INFORMATION BASED ON DATA FROM ATTACHED FILE CREATED BY HENKELS AND BAKER, INC. DURING 05 APRIL 2004, DATE OF ASSET PHOTOGRAPHY 04/05/04.



REV	DATE	DESCRIPTION	BY	CHK	REV	BY
1	08/03/97	PROJECT NO. 833-8154				
2	08/03/97	CLIENT FILE NO. 10001-008				
3	08/03/97	PROJECT NAME: EASTERN PLUME / DRAPL INVESTIGATION				
4	08/03/97	NEARBY SITE, SALEM, OHIO				
5	08/03/97	COMPOSITE GROUNDWATER CONTOURS				
6	08/03/97	OVERBURDEN				
7	08/03/97	SCALE: AS SHOWN				
8	08/03/97	FIGURE 2				

ATTACHMENT 3



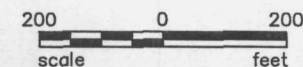
LEGEND

- PROPERTY LINE
- MONITORING WELL LOCATION
- DETECTED TOTAL VOC CONCENTRATION (ug/l)
- ISOCONCENTRATION CONTOUR

NOTES

REFERENCE

- TOPOGRAPHIC BASE MAP TAKEN FROM AUTOCAD FILE CREATED BY HOWELLS AND BAIRD, INC., DATED 06/14/95, DATE OF AERIAL PHOTOGRAPHY 04/06/95.



JOB No.:	933-6154	SCALE:	AS SHOWN
DR BY:	MME	DATE:	05/22/97
CHK BY:		FILE No.:	OH01-549
REV BY:		DR SUBTITLE:	15

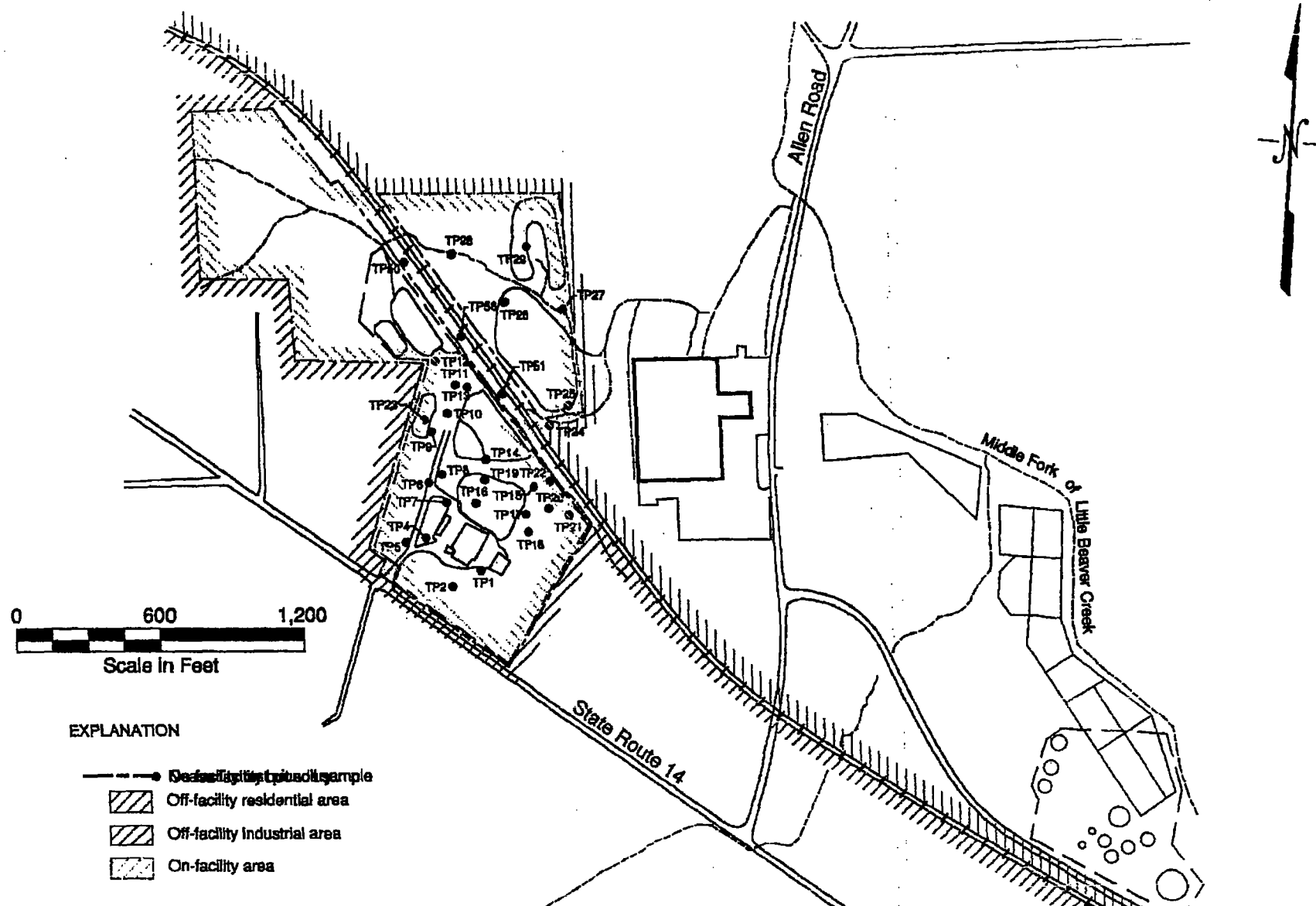
Golder Associates

**INTERPRETED ISOCONCENTRATION
CONTOURS- TOTAL VOCs
SOUTHEASTERN OVERBURDEN**

RUETGERS-NEASE CORPORATION

FIGURE 11

ATTACHMENT 4



ENVIRON

ON-FACILITY TEST PIT SOIL SAMPLING LOCATIONS
NEASE CHEMICAL COMPANY, SALEM, OHIO

Figure
III-5

ID	PARAMETER	Result	UNITS	QUAL
RNS-TP-01-0.5	1,2-Dichloroethane	3	µg/kg	J
RNS-TP-01-0.5	1,2-Dichloropropane	32	µg/kg	
RNS-TP-01-0.5	Diphenyl Sulfone	67	µg/kg	J
RNS-TP-01-0.5	Hexachlorobenzene	89	µg/kg	J
RNS-TP-01-0.5	Mirex	42400	µg/kg	J
RNS-TP-01-0.5	Photomirex	559	µg/kg	J
RNS-TP-01-3.5	1,1,2,2-Tetrachloroethane	5	µg/kg	J
RNS-TP-01-3.5	1,2-Dichloropropane	21	µg/kg	
RNS-TP-01-3.5	Mirex	5820	µg/kg	**
RNS-TP-01-3.5	Tetrachloroethene	7	µg/kg	
RNS-TP-01-6.5	1,1,2,2-Tetrachloroethane	37	µg/kg	
RNS-TP-01-6.5	1,2-Dichlorobenzene	120	µg/kg	J
RNS-TP-01-6.5	1,2-Dichloropropane	56	µg/kg	
RNS-TP-01-6.5	Hexachlorobenzene	310	µg/kg	J
RNS-TP-01-6.5	Mirex	2710	µg/kg	**
RNS-TP-01-6.5	Tetrachloroethene	490	µg/kg	
RNS-TP-01-6.5	Trichloroethene	34	µg/kg	
RNS-TP-02-0.5	Mirex	3620	µg/kg	**
RNS-TP-02-0.5	Photomirex	105	µg/kg	J
RNS-TP-02-3.5	1,2-Dichloroethane	6	µg/kg	J
RNS-TP-02-3.5	1,2-Dichloropropane	73	µg/kg	
RNS-TP-02-3.5	Mirex	151	µg/kg	
RNS-TP-02-3.5	Photomirex	4.42	µg/kg	J
RNS-TP-02-6.5	1,2-Dichloropropane	21	µg/kg	
RNS-TP-02-6.5	Mirex	10.2	µg/kg	J
RNS-TP-02-6.5	Photomirex	0.279	µg/kg	J
RNS-TP-18-0.5	Mirex	187	µg/kg	J
RNS-TP-18-10	1,1,1-Trichloroethane	4	µg/l	J
RNS-TP-18-10	Acetone	9	µg/l	J
RNS-TP-18-10	bis(2-Ethylhexyl)Phthalate	7	µg/l	J
RNS-TP-18-10	Chloromethane	2	µg/l	J
RNS-TP-18-10	Diethylphthalate	1	µg/l	J
RNS-TP-18-10	Methylene Chloride	5	µg/l	
RNS-TP-18-10	Mirex	0.0076	µg/l	
RNS-TP-18-3.5	1,2-Dichlorobenzene	77	µg/kg	J
RNS-TP-18-3.5	Mirex	425	µg/kg	**
RNS-TP-18-3.5	Photomirex	7.98	µg/kg	J
RNS-TP-18-3.5	Hexachlorobenzene	41	µg/kg	J
RNS-TP-18-6.5	1,2-Dichlorobenzene	8300	µg/kg	
RNS-TP-18-6.5	1,4-Dichlorobenzene	140	µg/kg	J
RNS-TP-18-6.5	2,4-Dichlorophenol	220	µg/kg	J
RNS-TP-18-6.5	Chlorobenzene	6	µg/kg	J
RNS-TP-18-6.5	Dieldrin	13	µg/kg	J
RNS-TP-18-6.5	Diphenyl Sulfone	500	µg/kg	J
RNS-TP-18-6.5	Mirex	105	µg/kg	
RNS-TP-18-6.5	Photomirex	5.72	µg/kg	J

ID	PARAMETER	Result	UNITS	QUAL
RNS-TP-18-6.5	Tetrachloroethene	8	µg/kg	J
RNS-TP-18-7.5	1,2,4-Trichlorobenzene	140	µg/kg	J
RNS-TP-18-7.5	1,2-Dichlorobenzene	290000	µg/kg	
RNS-TP-18-7.5	1,3-Dichlorobenzene	69	µg/kg	J
RNS-TP-18-7.5	1,4-Dichlorobenzene	3000	µg/kg	J
RNS-TP-18-7.5	2,4-Dichlorophenol	430	µg/kg	
RNS-TP-18-7.5	2-Chlorophenol	99	µg/kg	J
RNS-TP-18-7.5	Chlorobenzene	120	µg/kg	
RNS-TP-18-7.5	Diphenyl Sulfone	17000	µg/kg	J
RNS-TP-18-7.5	Hexachlorobenzene	120	µg/kg	J
RNS-TP-18-7.5	Mirex	4720	µg/kg	**
RNS-TP-18-7.5	Naphthalene	290	µg/kg	J
RNS-TP-18-7.5	Phenol	98	µg/kg	J
RNS-TP-18-7.5	Tetrachloroethene	310	µg/kg	
RNS-TP-18-7.5	Toluene	11	µg/kg	J
RNS-TP-18-7.5	Trichloroethene	9	µg/kg	J

ATTACHMENT 5

Summary of Release
Ruetgers Organics Corporation
Salem, Ohio

EPA Hazardous Waste No.	Contaminant	Regulatory Level ⁽¹⁾ (mg/L)	Influent Concentration ⁽²⁾ (mg/L)	Release Volume (gal): 4,000	
				Reportable Quantity ⁽³⁾ (lbs)	Quantity Released ⁽⁴⁾ (lbs)
D018	Benzene	0.5	0.445	10	0.01483
-	1,1,2,2-Tetrachloroethane	-	0.127	100	0.00423
D029	1,1-Dichloroethene	0.7	0.013	100	0.00043
-	1,2-Dichlorobenzene	-	0.384	100	0.01280
D028	1,2-Dichloroethane	0.5	0.198	100	0.00660
D021	Chlorobenzene	100.0	0.330	100	0.01100
D022	Chloroform	6.0	0.049	10	0.00163
-	cis-1,2-Dichloroethene	-	10.6	1,000	0.35333
-	Ethylbenzene	-	0.021	1,000	0.00070
-	Mirex	-	0.316	-	0.01053
D039	Tetrachloroethene	0.7	0.950	100	0.03167
-	Toluene	-	0.058	1,000	0.00193
-	trans-1,2-Dichloroethene	-	0.043	1,000	0.00143
D040	Trichloroethene	0.5	0.435	100	0.01450
D043	Vinyl Chloride	0.2	0.647	1	0.02157
Total Organics			14.616		0.487

Note: Bolded/highlighted values indicate exceedance of Regulatory Level. There are no exceedances of Reportable Quantity.

1) Values provided in Table 1: Maximum Concentration of Contaminants for the Toxicity Characteristics (40 CFR 261.24).

2) Values taken from analytical data from sample collected from influent material, June 16, 2004.

3) Reportable Quantity is EPCRA reportable quantities as identified in the List of Lists, Consolidated List of Chemicals Subject to EPCRA (EPA, 2001).

4) Based on release volume shown above and influent concentrations of June 16, 2004 sample.

NA - Not Analyzed